Amendments to the Claims

Please amend claims 1-3, 5-9, 11-13, 15 and 17-27, and cancel claims 4 and 16, as indicated below. The claims listing below replaces all previous listings.

1. (currently amended) A process for producing an aldehyde derivative of a sialic acid in which a starting material which is a di-, oligo- or poly-saccharide having a sialic acid unit at the reducing terminal and a terminal saccharide at the non-reducing end, which has a vicinal diol group, is subjected to the sequential steps of:

a) preliminary selective oxidation to oxidise the vicinal diol group to an aldehyde

b) reduction to reductively open the ring at the reducing terminal sialic acid unit, whereby a vicinal diol group is formed, and wherein the aldehyde formed in step a) is also reduced to form a hydroxy group which is not part of a vicinal diol group; and

c) selective oxidation to oxidise the vicinal diol group formed in step b) to form an aldehyde group.

2. (currently amended) A process according to claim 1 in which the sialic acid unit at the reducing terminal is joined to the adjacent sialic acid unit through the 8 carbon atom whereby in step b) the 6,7 vicinal diol group is oxidised to form an aldehyde on the carbon-7 atom.

3. (currently amended) A process according to claim 1 ~~or claim 2~~ in which the saccharide unit at the non-reducing end is a sialic acid unit.

4. (cancelled)

5. (currently amended) A process according to claim 1 [[4]] in which the polysaccharide is a polysialic acid consisting substantially only of units of sialic acid.

6. (currently amended) A process according to claim 5 in which the polysaccharide has ~~at least 2, preferably~~ at least 5 ~~or more preferably at least 10, most preferably at least 50~~ sialic acid units ~~in the molecule~~.

7. (currently amended) A process according to ~~any of claims 4 to 6~~ claim 1 in which the said preliminary selective oxidation step is carried out under conditions such that there is substantially no mid-chain cleavage of the polysaccharide ~~chair~~.

8. (currently amended) A process according to claim 7 in which the said preliminary selective oxidation step is carried out in aqueous solution in the presence of periodate at a concentration in the range 1mM to 1M, a pH in the range 3 to 10, a temperature in the range 0 to 60°C and a time in the range 1 min to 48 hours.

9. (currently amended) A process according to ~~any preceding~~ claim 1 in which step b) is carried out under conditions such that pendent carboxyl groups on the starting material are not reduced.

10. (original) A process according to claim 9 in which step b) is carried out in aqueous solution in the presence of borohydride at a concentration in the range 1μM to 0.1M, a pH in the range 6.5 to 10, a temperature in the range 0 to 60°C and a period in the range 1 min to 48 h.

11. (currently amended) A process for producing a derivatised substrate ~~according to any preceding claim~~ in which the process of claim 1 is carried out and then the said aldehyde derivative is reacted with a substrate having a primary amine group or a hydrazide group whereby the aldehyde group reacts with the primary amine or hydrazide group to form a conjugate product.

12. (currently amended) A process according to claim 11 in which the ~~conjugate~~ product is reduced.

13. (currently amended) A process according to claim 11 ~~or claim 12~~ in which the substrate is a peptide or a protein.

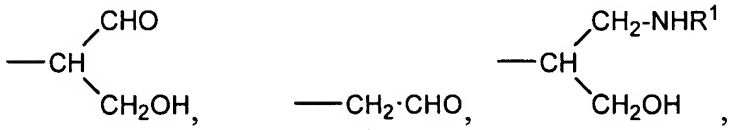
14. (original) A process according to claim 13 in which the substrate is a peptide therapeutic.

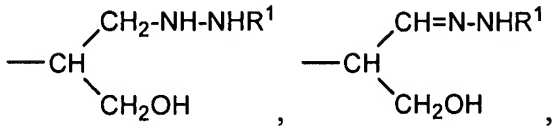
15. (currently amended) A process according to claim 11 ~~or claim 12~~ in which the substrate is a compound having a functional group substituent and a dibasic organic group joining the amine or hydrazide group and the functional group.

16. (cancelled)

17. (currently amended) A process according to claim 11 ~~or 12~~ in which the substrate is a drug delivery system, a cell, ~~preferably a microbial cell or an animal cell,~~ a virus or a synthetic polymer.

18. (currently amended) A compound which is an aldehyde derivative of a di-, oligo or poly[[-]]saccharide comprising at least one sialic acid unit, and having two terminal units corresponding to the reducing and non-reducing terminal units of a polysaccharide in which the terminal unit at the reducing end includes an aldehyde moiety or is a group OR, in which R is selected from,

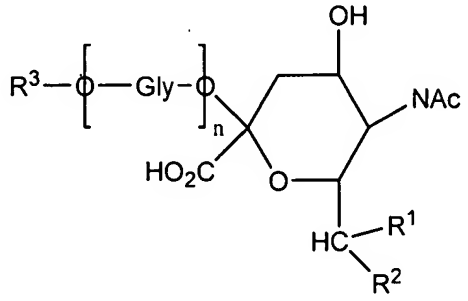




- $CH_2CH_2NHR^1$, $CH_2CH{=}N\text{-}NHR^1$ and $CH_2CH_2NHNHR^1$ in which R^1 is H, $C_{1\text{-}24}$-alkyl, aryl $C_{2\text{-}6}$-alkanoyl, or a polypeptide or a protein linked through the N terminal or the γ-

amine group of a lysine residue thereof, a drug delivery system or is an organic group having a functional substituent adapted for reaction with a sulfhydryl group and which has a passivated unit at the non-reducing ~~end~~ terminal unit.

19. (currently amended) A compound according to claim 18 which has general formula I

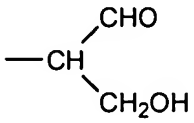


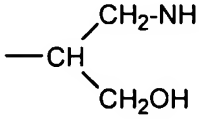
in which R^3 is H and R^4 is OH each GlyO is a glycosyl group which may be the same or different, n is an integer of 1 or more and R is as defined in claim 18.

20. (currently amended) A compound according to ~~claim 18 or~~ claim 19 ~~which is a polysaccharide~~ in which substantially all the ~~saccharide units are all~~ GlyO groups are sialic acid groups, joined 2-8, 2-9 or alternating 2-8/2-9, to one another.

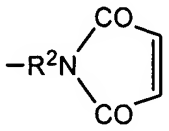
21. (currently amended) A compound according to claim 20 ~~having at least 2, preferably at least 5, more preferably at least 10, most preferably at least 50 sialic acid units in the polysaccharide chain~~ in which n is at least 5.

22. (currently amended) A compound according to ~~any of claims 18 to 21~~ claim 18 in which R^1 is a protein or peptide or a drug delivery system.

23. (currently amended) A compound according to ~~any of claims 18 to 22~~ claim 18 in which R is 

24. (currently amended) A compound according to ~~any of claims 18 to 22~~ claim 18 in which R is 

25. (currently amended) A compound according to claim 21 or claim 24 in which R^1 is a peptide or protein therapeutic ~~preferably an antibody or fragment~~.

26. (currently amended) A compound according to ~~any of claims 18 to 21~~ claim 18 in which R^1 is a group  in which R^2 is a C_{2-12}-alkanediyl group.

27. (currently amended) A composition comprising a compound according to ~~any of claims 18 to 26~~ claim 18 and a diluent.

28. (original) A pharmaceutical composition comprising a compound according to claim 21 or claim 25 and a pharmaceutically acceptable excipient.